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2010–2011 Minerals Yearbook

MISSOURI [ADVANCE RELEASE]

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U.S. Geological Survey

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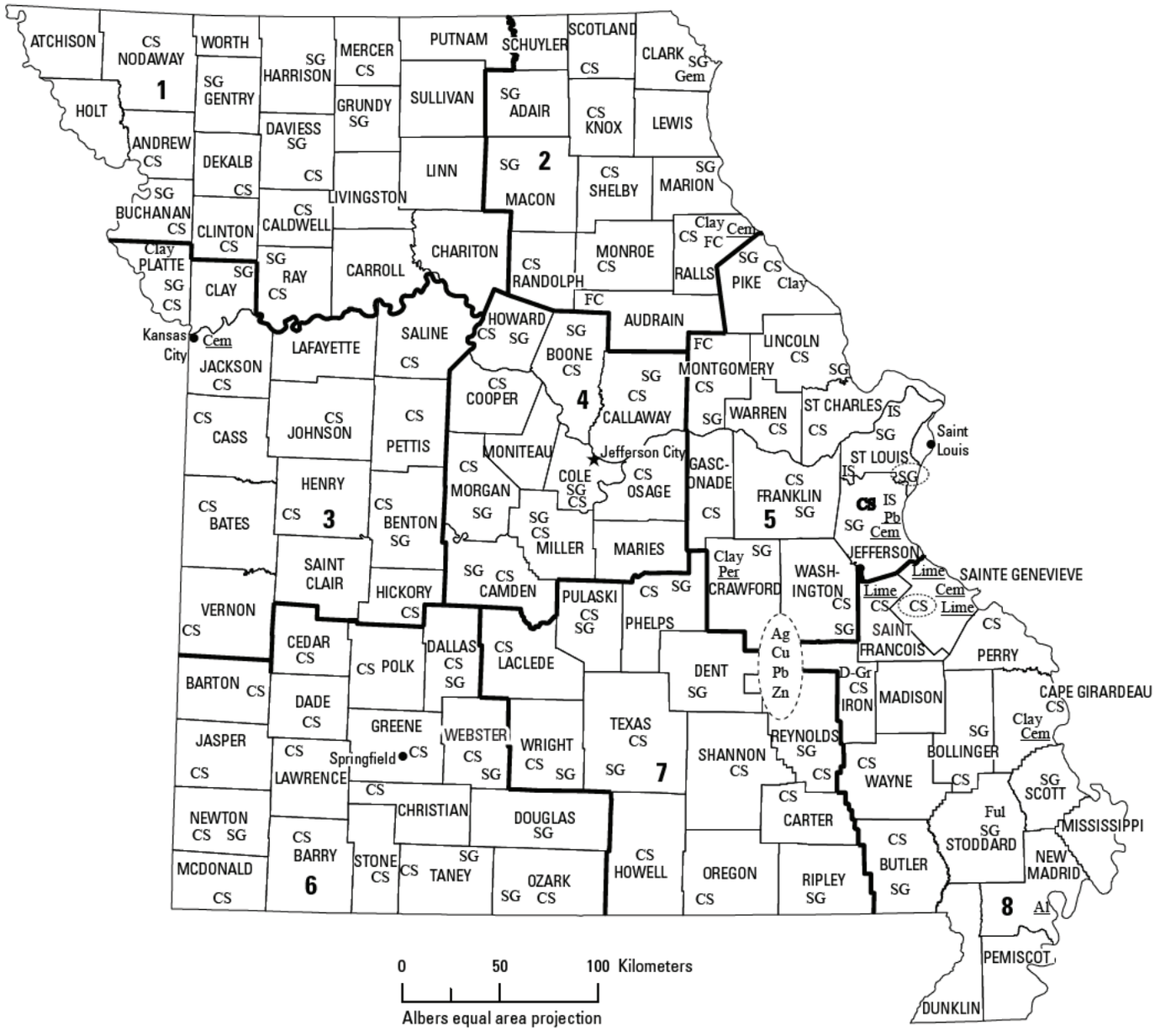
MISSOURI



LEGEND

- County boundary
- ★ Capital
- ● City
- 1 Crushed stone/sand and gravel district boundary

MINERAL SYMBOLS
(Principal producing areas)

Ag	Silver
Al	Aluminum plant
Cem	Cement plant
Clay	Common clay
CS	Crushed stone
Cu	Copper
D-Gr	Dimension granite
FC	Fire clay
Ful	Fuller's earth
Gem	Gemstones
IS	Industrial sand
Lime	Lime plant
Pb	Lead
Pb	Lead plant
Per	Perlite
SG	Construction sand and gravel
Zn	Zinc
⬭	Concentration of mineral operations

Source: Missouri Department of Natural Resources, Division of Geology and Land Survey/U.S. Geological Survey (2010–11).

The Mineral Industry of Missouri

This chapter has been prepared under a Memorandum of Understanding between the U.S. Geological Survey and the Missouri Department of Natural Resources, Division of Geology and Land Survey for collecting information on all nonfuel minerals.

In 2011, Missouri's nonfuel mineral production[1] was valued at $2.20 billion, based upon annual U.S. Geological Survey (USGS) data. This was a 9.7% increase from the State's total nonfuel mineral production value of $2.01 billion in 2010, which followed a 9.1% increase from a total production value of $1.84 billion in 2009. The State ranked 10th in 2010 and 2011 among the 50 States in total nonfuel mineral production value, down from 9th in 2009, and accounted for about 3% of the U.S. totals of $66.4 billion in 2010 and $74.7 billion in 2011. On a per capita basis, Missouri ranked 13th in the Nation in nonfuel mineral production with a value of $366 per capita in 2011, $126 above the national average of $240.

The State's leading nonfuel mineral commodities in 2010 and 2011 were, in descending order of production value, crushed stone, portland cement, lead, and lime. Crushed stone and portland cement together accounted for about 56% and 51% of the State's total nonfuel mineral values in 2010 and 2011, respectively. Crushed stone and portland cement have been the State's leading two mineral commodities since 1994.

The production value of lime rose in 2011 by about 5% following a 27% increase in 2010 (actual value of lime withheld—company proprietary data). In 2011, the estimated production value of portland cement increased by $25 million (4.6%), which followed a $99.7 million (23%) increase in 2010. Similarly, the production of portland cement increased by 585,000 metric tons (t) (9%) in 2011, which followed a large increase of 2.1 million metric tons (Mt) (46%) in 2010. The increase was owing to the startup in 2009 of a 3.63 Mt/year capacity plant built by Holcim (US) in Ste. Genevieve on the Missouri River. The plant supplies cement to the Midwest's transportation and other construction industries. Both the production quantity and value of industrial sand and gravel had steadily been increasing since 2006 until 2010, when production fell by 54,000 t (6%) and production value decreased by $4.2 million (13%). In 2011, the production of industrial sand and gravel rose by nearly 1.2 Mt (150%) and production value climbed by $73 million (250%). Crushed stone production value decreased in both 2010 and 2011, first by $53 million (8.4%) in 2010, then by $12 million (2.1%) in 2011. Similarly, the production of crushed stone decreased by 3.4 Mt (4.6%) in 2010 and 4.8 Mt (6.9%) in 2011.

The production values of copper, lead, silver, and zinc all increased in 2010 and 2011, despite decreases in production quantities in 2010 and only minor increases in the production quantities in 2011. In 2010, the production values of copper, silver, and zinc all increased by more than 20%. In 2011, the production values of silver increased by 88%, copper increased by 46%, and zinc increased by 13%. Metals constituted 27% of the State's total nonfuel mineral production value in 2011, up from 24% in 2010 and 23% in 2009 (actual value of metals withheld—company proprietary data).

Missouri continued to lead the Nation in the production of fire clay and lime through 2010 and 2011 among 3 and 33 producing States, respectively. As of 2011, Missouri had led the Nation in lime production for 16 consecutive years. Missouri rose to 6th from 17th in the production of industrial sand and gravel in 2011, and to first from second in the production of lead. In both 2010 and 2011, the State remained third in the production of crushed stone and portland cement and sixth in copper production among eight copper-producing States. Missouri was ranked first in the Nation in tripoli production in 2010, but then dropped to second in 2011 among four producing States. The State dropped to eighth from seventh in silver production among 11 producing States in 2011. In 2010, Missouri fell to third in the production of zinc from second among four producing States and remained third in 2011 (actual data withheld—company proprietary data).

The Missouri Department of Natural Resources, Division of Geology and Land Survey[2] (DGLS), provided the following narrative information. Some data or information as reported by the DGLS may differ from USGS estimates and production figures. Production tonnages, as reported by mineral facilities to the Missouri Division of Labor Standards, are summarized to avoid disclosing information that may be considered proprietary by the individual companies.

Commodity Review

Industrial minerals

Cement.—In 2010, five plants in Missouri produced portland cement, one fewer than in 2009. Buzzi Unicem USA Inc. (Bethlehem, PA) operated its River Cement (Selma) plant, south of Festus, Jefferson County, and its plant near Cape Girardeau, Cape Girardeau County. Continental Cement Co. LLC (Chesterfield, MO) operated the Hannibal plant, Ralls County. Holcim (US) Inc. (Waltham, MA) operated its Ste. Genevieve plant north of Ste. Genevieve, Ste. Genevieve County. Lafarge North America Inc. (Chicago, IL) operated the Sugar Creek

[1]The terms "nonfuel mineral production" and related "values" encompass variations in meaning, depending upon the mineral products. Production may be measured by mine shipments, mineral commodity sales, or marketable production (including consumption by producers) as is applicable to the individual mineral commodity.

All USGS mineral production data published in this chapter are those available as of May 2013. Data in this report are rounded to three significant digits and percentages are calculated from unrounded data. All USGS Mineral Industry Surveys and USGS Minerals Yearbook chapters—mineral commodity, State, and country—can be retrieved over the Internet at http://minerals.usgs.gov/minerals.

[2]Patrick S. Mulvany, Geologist and Chief, Industrial Minerals Unit, authored the text of the State mineral industry information provided by the Missouri Department of Natural Resources, Division of Geology and Land Survey.

plant, Jackson County, on the Missouri River just east of Kansas City.

Clay and Shale.—Ten companies reported a total of 1.5 Mt of clay production to the State in 2010. Production included fire clay and fuller's earth. Nestle Purina Petcare Co. in Stoddard County led the State in clay production. Two companies reported producing a total of 200,000 t of shale to the State, nearly half of which was used in the manufacture of portland cement. Buildex Inc. (Ottawa, KS) continued to produce lightweight aggregate marketed as haydite from the Weston Shale in Platte County, just northwest of Kansas City.

Lime.—Lhoist North America (Fort Worth, TX; formerly Chemical Lime Co.) and Mississippi Lime Co. (St. Louis, MO) continued to produce high-calcium quicklime and hydrated lime at their lime plants in Ste. Genevieve County in southeastern Missouri. In addition, Missouri Lime LLC (St. Louis, MO) produced dolomitic quicklime at its Bonne Terre lime plant in St. Francis County.

Sand, Silica.—Four companies produced high-quality quartz sand from the St. Peter Sandstone—Buzzi Unicem and Uninmin Corp. (New Canaan, CT) in Jefferson County; Proppant Specialists LLC (Brandy, TX), in Perry County; and U.S. Silica Co. (Frederick, MD) in St. Louis County. The total production reported to the State was 1.2 Mt in 2010. Proppant Specialists produced hydraulic-fracture sand that was used by the oil-and-gas-well-servicing industry as a propping agent in shale formations.

Stone, Crushed.—Specialty Granules Inc. (Hagerstown, MD; formerly ISP Minerals Inc.) and CertainTeed Corp. (Valley Forge, PA) produced crushed rhyolite-trachyte roofing granules from their mines and processing facilities in Iron and Wayne Counties, respectively. Graniteville Quarry LLC (Ironton, MO) produced crushed granite in Iron County. These companies declared their stone as "granite." Dillon Llewellyn LLC and Iron Mountain Trap Rock Co. (Maryland Heights, MO; a subsidiary of Fred Weber, Inc.) produced a dark-colored, crushed rhyolite in Iron and St. Francois Counties, respectively. These companies declared their stone as "trap rock." Crushed limestone (including dolomite) was produced at surface mines throughout most of the State. Underground mining of crushed limestone and some crushed dolomite took place in Clay, Greene, Jackson, Jasper, Platte, Stone, and Taney Counties. In addition to creating aggregate, some mines were then planned to be used as underground storage space.

Stone, Dimension.—Missouri Red Quarries Inc. produced granitic dimension stone in Iron County. Dimension stone from dolomite, limestone, and sandstone was produced at several locations in the State.

Metals

Copper, Lead, Silver, and Zinc.—Production of copper, lead, silver, and zinc took place entirely from underground mines operated by Doe Run Resources Corp. (St. Louis, MO) in the Viburnum Trend Subdistrict of the Southeast Missouri Lead District, encompassing Crawford, Dent, Iron, Reynolds, Shannon, and Washington Counties. Doe Run's operating mines are in Iron, Reynolds, and Washington Counties. Total combined production of copper, lead, and zinc mineral concentrates reported to the State was about 280,000 t in 2010. Lead concentrate accounted for the majority of this total. Doe Run's primary smelter in Herculaneum, Jefferson County, continued to operate in 2010 and 2011, but in October 2010, the company announced it would discontinue operations at the smelter at the end of 2013 (Doe Run Resources Corp., 2010). An unreported amount of silver was recovered as a byproduct of the smelting process. The company's Glover smelter, in Iron County, remained on care-and-maintenance status. Doe Run's Buick Resource Recycling Division continued to operate its lead recycling plant near the town of Boss, Dent County.

Reference Cited

Doe Run Resources Corp., 2010, The Doe Run Company reaches landmark environmental agreement: St. Louis, MO, Doe Run Resources Corp. press release, October 8, 1 p. (Accessed November 6, 2014, at http://www.doerun.com/media-center/news-releases/article/articletype/articleview/articleid/49/the-doe-run-company-reaches-landmark-environmental-agreement.)

TABLE 1
NONFUEL MINERAL PRODUCTION IN MISSOURI[1, 2]

(Thousand metric tons and thousand dollars)

Mineral	2009		2010		2011	
	Quantity	Value	Quantity	Value	Quantity	Value
Cement, portland	4,420	434,000 e	6,470	534,000 e	7,050	559,000 e
Clays, common	421	3,020	412	3,060	431	3,370
Sand and gravel:						
Construction	11,500	72,000 r	11,900	73,900	9,250	64,100
Industrial	836 r	32,900 r	782	28,700	1,970	101,000
Stone, crushed	72,800 r	637,000 r	69,400	584,000	64,700	571,000
Combined values of cadmium (byproduct from zinc concentrates), cement (masonry), clays (fire, fuller's earth), copper, gemstones (natural), lead, lime, silver, stone (dimension granite), tripoli (2010–11), zinc	XX	661,000 r	XX	785,000	XX	904,000
Total	XX	1,840,000 r	XX	2,010,000	XX	2,200,000

eEstimated. rRevised. XX Not applicable.
[1]Production as measured by mine shipments, sales, or marketable production (including consumption by producers).
[2]Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 2
MISSOURI: CRUSHED STONE SOLD OR USED IN THE UNITED STATES, BY TYPE[1]

Type	2009				2010				2011			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone[2]	205 r	66,700 r	$495,000 r	$7.42	198	64,700	$502,000	$7.76	183	60,000	$468,000	$7.81
Dolomite	20	2,330 r	16,900 r	7.25	20	2,500	19,100	7.65	19	1,840	14,500	7.88
Marble	--	--	--	--	1	9	79	8.51	1	16	135	8.65
Granite	3	1,200	101,000	84.24	3	899	52,900	58.82	3	1,160	73,600	63.41
Traprock	2	2,160	15,800	7.31	1	1,270	8,810	6.93	1	1,460	12,600	8.68
Sandstone and quartzite[3]	2	316	9,020	28.52	--	--	--	--	--	--	--	--
Miscellaneous stone	2 r	122 r	831 r	6.81	2	100	747	7.45	2	218	1,890	8.68
Total or average	XX	72,800 r	637,000 r	8.75	XX	69,400	584,000	8.40	XX	64,700	571,000	8.83

rRevised. XX Not applicable. -- Zero
[1]Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.
[2]Includes limestone-dolomite reported with no distinction between the two kinds of stone.
[3]Includes sandstone-quartzite reported with no distinction between the two kinds of stone.

TABLE 3
MISSOURI: CRUSHED STONE SOLD OR USED BY PRODUCERS
IN 2010, BY USE[1]

(Thousand metric tons and thousand dollars)

Use	Quantity	Value
Construction:		
Coarse aggregate (+1½ inch):		
Macadam	195	$1,570
Riprap and jetty stone	2,520	20,100
Filter stone	355	3,050
Other coarse aggregate	472	3,720
Coarse aggregate, graded:		
Concrete aggregate, coarse	1,440	14,000
Bituminous aggregate, coarse	1,550	15,100
Bituminous surface-treatment aggregate	161	867
Railroad ballast	543	3,620
Other graded coarse aggregate	260	2,190
Fine aggregate (-⅜ inch):		
Stone sand, concrete	168	1,650
Stone sand, bituminous mix or seal	178	1,500
Screening, undesignated	321	1,010
Other fine aggregate	319	2,940
Coarse and fine aggregates:		
Graded road base or subbase	3,820	24,600
Unpaved road surface	1,670	13,700
Terrazzo and exposed aggregate	W	W
Crusher run or fill or waste	333	2,030
Roofing granules	326	49,000
Other coarse and fine aggregates	650	4,390
Other construction materials	66	571
Agricultural:		
Agricultural, limestone	732	3,820
Poultry grit and mineral food	W	W
Chemical and metallurgical:		
Cement manufacture	7,780	48,800
Lime manufacture	1,690	11,100
Special, asphalt fillers or extenders	W	W
Unspecified:[2]		
Reported	8,780	74,300
Estimated	35,700	290,000
Total	69,400	584,000

W Withheld to avoid disclosing company proprietary data; included in "Total."
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Reported and estimated production without a breakdown by end use.

TABLE 4
MISSOURI: CRUSHED STONE SOLD OR USED BY PRODUCERS
IN 2011, BY USE[1]

(Thousand metric tons and thousand dollars)

Use	Quantity	Value
Construction:		
Coarse aggregate (+1½ inch):		
Macadam	157	1,250
Riprap and jetty stone	3,610	29,600
Filter stone	182	1,020
Unspecified coarse aggregate	268	2,120
Coarse aggregate, graded:		
Concrete aggregate, coarse	1,070	9,330
Bituminous aggregate, coarse	608	4,830
Bituminous surface-treatment aggregate	214	1,780
Railroad ballast	467	3,810
Unspecified graded coarse aggregate	846	8,220
Fine aggregate (-⅜ inch):		
Stone sand, concrete	175	1,590
Stone sand, bituminous mix or seal	127	1,010
Screening, undesignated	270	796
Unspecified fine aggregate	210	1,720
Coarse and fine aggregates:		
Graded road base or subbase	2,920	16,600
Unpaved road surface	961	6,670
Terrazzo and exposed aggregate	W	W
Crusher run or fill or waste	386	2,480
Roofing granules	W	W
Unspecified coarse and fine aggregates	905	5,630
Unspecified and other construction materials	101	790
Agricultural, agricultural limestone	764	3,780
Chemical and metallurgical:		
Cement manufacture	8,020	37,900
Lime manufacture	W	W
Flux stone	W	W
Sulfur oxide removal	W	W
Special:		
Asphalt fillers or extenders	81	405
Other fillers or extenders	W	W
Unspecified:[2]		
Reported	6,950	61,300
Estimated	33,200	290,000
Total	64,700	571,000

W Withheld to avoid disclosing company proprietary data; included in "Total."
[1]Data are rounded to no more than three significant digits.
[2]Reported and estimated production without a breakdown by end use.

TABLE 5
MISSOURI: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2010, BY USE AND DISTRICT[1]

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch)[2]	64	$730	294	$2,440	W	W
Coarse aggregate, graded[3]	W	W	112	751	W	W
Fine aggregate (-⅜ inch)[4]	W	W	24	147	W	W
Coarse and fine aggregates[5]	W	W	326	2,370	W	W
Other construction materials	--	--	--	--	--	--
Agricultural[6]	W	W	W	W	W	W
Chemical and metallurgical[7]	W	W	W	W	--	--
Special[8]	--	--	--	--	--	--
Unspecified:[9]						
Reported	256	2,430	362	3,040	3,760	$31,700
Estimated	2,440	20,600	1,520	12,700	5,020	41,900
Total[10]	3,380	31,100	4,050	30,300	9,310	79,200

Use	District 4		District 5		District 6	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch)[2]	W	W	451	$3,450	96	$1,010
Coarse aggregate, graded[3]	131	$1,180	343	2,680	949	10,200
Fine aggregate (-⅜ inch)[4]	W	W	105	294	330	2,660
Coarse and fine aggregates[5]	W	W	1,440	8,780	939	7,470
Other construction materials	--	--	--	--	W	W
Agricultural[6]	18	99	W	W	258	1,440
Chemical and metallurgical[7]	--	--	W	W	W	W
Special[8]	--	--	--	--	W	W
Unspecified:[9]						
Reported	723	6,130	887	7,440	644	5,440
Estimated	4,240	34,600	5,750	42,200	5,430	45,200
Total[10]	5,400	44,300	10,200	72,600	8,850	74,700

Use	District 7		District 8		Unspecified districts	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch)[2]	W	W	W	W	81	$1,030
Coarse aggregate, graded[3]	W	W	1,730	$13,600	99	1,190
Fine aggregate (-⅜ inch)[4]	W	W	199	902	56	709
Coarse and fine aggregates[5]	347	$2,310	2,790	64,100	331	3,500
Other construction materials	--	--	--	--	--	--
Agricultural[6]	33	200	W	W	45	383
Chemical and metallurgical[7]	--	--	6,760	43,000	17	119
Special[8]	--	--	W	W	--	--
Unspecified:[9]						
Reported	--	--	2,140	18,100	--	--
Estimated	1,210	10,100	10,100	83,000	--	--
Total[10]	1,930	15,000	26,400	241,000	629	6,920

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes macadam, riprap and jetty stone, filter stone, and other coarse aggregates.

[3]Includes concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface-treatment aggregate, railroad ballast, and other graded coarse aggregates.

[4]Includes stone sand (concrete), stone sand (bituminous mix or seal), screening (undesignated), and other fine aggregates.

[5]Includes graded road base or subbase, unpaved road surface, terrazzo and exposed aggregate, crusher run, roofing granules, and other coarse and fine aggregates.

[6]Includes agricultural limestone, poultry grit and mineral food, and other agricultural uses.

[7]Includes cement manufacture and lime manufacture.

[8]Includes mine dusting or acid water treatment, whiting or whitening substance, and other fillers or extenders.

[9]Reported and estimated production without a breakdown by end use.

[10]District totals may not add up to the published State total, owing to revisions made after the production of the table and (or) proprietary data being withheld.

TABLE 6
MISSOURI: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2011, BY USE AND DISTRICT[1]

(Thousand metric tons and thousand dollars)

	District 1		District 2		District 3	
Use	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch)[2]	W	W	W	W	W	W
Coarse aggregate, graded[3]	W	W	W	W	W	W
Fine aggregate (-⅜ inch)[4]	--	--	W	W	W	W
Coarse and fine aggregates[5]	W	W	W	W	W	W
Other construction materials	--	--	--	--	--	--
Agricultural[6]	W	W	W	W	W	W
Chemical and metallurgical[7]	--	--	W	W	--	--
Special[8]	--	--	W	W	--	--
Unspecified:[9]						
Reported	W	W	--	--	3,920	34,000
Estimated	2,460	23,400	1,230	10,600	4,140	35,900
Total	2,840	26,600	2,950	19,200	8,560	75,200

	District 4		District 5		District 6	
Use	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch)[2]	W	W	339	2,850	95	876
Coarse aggregate, graded[3]	W	W	355	3,060	W	W
Fine aggregate (-⅜ inch)[4]	W	W	84	214	332	2,690
Coarse and fine aggregates[5]	198	1,410	1,120	6,920	982	6,240
Other construction materials	W	W	--	--	W	W
Agricultural[6]	W	W	W	W	W	W
Chemical and metallurgical[7]	--	--	W	W	W	--
Special[8]	--	--	--	--	--	--
Unspecified:[9]						
Reported	1,100	9,550	678	5,890	606	6,060
Estimated	4,010	34,800	6,100	52,300	4,770	40,600
Total	5,470	47,100	10,200	79,500	7,650	64,900

	District 7		District 8		Unspecified	
Use	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch)[2]	W	W	W	W	--	--
Coarse aggregate, graded[3]	W	W	1,670	13,700	--	--
Fine aggregate (-⅜ inch)[4]	W	W	269	1,340	--	--
Coarse and fine aggregates[5]	W	W	2,970	82,900	--	--
Other construction materials	--	--	W	W	--	--
Agricultural[6]	W	W	W	W	--	--
Chemical and metallurgical[7]	--	--	6,710	32,800	--	--
Special[8]	--	--	W	W	--	--
Unspecified:[9]						
Reported	--	--	368	3,260	--	--
Estimated	901	7,820	8,950	77,700	602	6,570
Total	1,400	11,000	25,000	241,000	602	6,570

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.

[1]Data are rounded to no more than three significant digits.

[2]Includes macadam, riprap and jetty stone, filter stone, and other coarse aggregates.

[3]Includes concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface-treatment aggregate, railroad ballast, and other graded coarse aggregates.

[4]Includes stone sand (concrete), stone sand (bituminous mix or seal), screening (undesignated), and other fine aggregates.

[5]Includes graded road base or subbase, unpaved road surface, terrazzo and exposed aggregate, crusher run, roofing granules, and other coarse and fine aggregates.

[6]Includes agricultural limestone, poultry grit and mineral food, and other agricultural uses.

[7]Includes cement manufacture, lime manufacture, dead-burned dolomite manufacture, flux stone, chemical stone, glass manufacture, and sulfur oxide removal.

[8]Includes mine dusting or acid water treatment, whiting or whitening substance, and other fillers or extenders.

[9]Reported and estimated production without a breakdown by end use.

TABLE 7
MISSOURI: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2010,
BY MAJOR USE CATEGORY[1]

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)[2]	4,030	$19,800	$4.91
Concrete products (blocks, bricks, pipe, decorative, etc.)	377	2,680	7.11
Asphaltic concrete aggregates and other bituminous mixtures[3]	288	1,970	6.84
Fill	59	386	6.54
Snow and ice control	2	15	7.50
Other miscellaneous uses[4]	55	722	13.13
Unspecified:[5]			
Reported	438	3,190	7.28
Estimated	6,550	44,400	6.78
Total or average	11,900	73,900	6.21

[1]Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.
[2]Includes plaster and gunite sands.
[3]Includes road base coverings and road stabilization (lime).
[4]Includes golf course and roofing granules.
[5]Reported and estimated production without a breakdown by end use.

TABLE 8
MISSOURI: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2011,
BY MAJOR USE CATEGORY[1]

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	2,290	$17,100	$7.47
Concrete products (blocks, bricks, pipe, decorative, etc.)[2]	77	673	8.74
Asphaltic concrete aggregates and other bituminous mixtures	234	1,160	4.96
Road base coverings	49	252	5.14
Fill	288	1,170	4.06
Snow and ice control	2	15	7.50
Other miscellaneous uses[3]	91	1,050	11.54
Unspecified:[4]			
Reported	625	6,460	10.34
Estimated	5,590	36,200	6.48
Total or average	9,250	64,100	6.93

[1]Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.
[2]Includes plaster and gunite sands.
[3]Includes roofing granules.
[4]Reported and estimated production without a breakdown by end use.

TABLE 9
MISSOURI: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2010, BY USE AND DISTRICT[1]

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products[2]	W	W	W	W	--	--
Asphaltic concrete aggregates and road base materials[3]	W	W	W	W	--	--
Fill	W	W	W	W	--	--
Other miscellaneous uses[4]	--	--	W	W	--	--
Unspecified:[5]						
Reported	W	W	W	W	(6)	$1
Estimated	365	$2,470	575	$3,650	1,960	14,300
Total[7]	635	4,120	575	3,650	1,960	14,300

Use	District 4		District 5		District 6	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products[2]	W	W	W	W	--	--
Asphaltic concrete aggregates and road base materials[3]	W	W	W	W	--	--
Fill	43	$302	(6)	$7	--	--
Other miscellaneous uses[4]	W	W	3,010	13,500	(6)	$1
Unspecified:[5]						
Reported	435	3,130	--	--	--	--
Estimated	187	1,440	3,510	24,000	279	2,060
Total[7]	664	4,880	6,520	36,400	279	2,060

Use	District 7		District 8	
	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products[2]	W	W	W	W
Asphaltic concrete aggregates and road base materials[3]	W	W	W	W
Fill	W	W	--	--
Other miscellaneous uses[4]	W	W	--	--
Unspecified:[5]				
Reported	--	--	--	--
Estimated	417	$2,660	--	--
Total[7]	479	3,250	680	$4,510

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes plaster and gunite sands.
[3]Includes road base coverings and road stabilization (lime).
[4]Includes golf course and roofing granules.
[5]Reported and estimated production without a breakdown by end use.
[6]Less than ½ unit.
[7]District totals may not add up to the published State total, owing to revisions made after the production of the table and (or) proprietary data being withheld.

TABLE 10
MISSOURI: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2011, BY USE AND DISTRICT[1]

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products[2]	W	W	W	W	W	W
Asphaltic concrete aggregates and road base materials	W	W	--	--	--	--
Fill	4	20	W	W	W	W
Other miscellaneous uses[3]	--	--	--	--	--	--
Unspecified:[4]						
Reported	129	2,840	2	44	--	--
Estimated	405	3,090	275	2,100	1,420	10,800
Total	585	6,260	336	2,580	1,840	13,700

Use	District 4		District 5		District 6	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products[2]	W	W	(5)	W	--	--
Asphaltic concrete aggregates and road base materials	W	W	(5)	W	--	--
Fill	18	90	2	18	--	--
Other miscellaneous uses[3]	W	W	W	W	--	--
Unspecified:[4]						
Reported	452	3,350	--	--	--	--
Estimated	54	410	2,870	15,500	164	1,230
Total	1,210	8,320	4,030	24,800	164	1,230

Use	District 7		District 8	
	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products[2]	(5)	(5)	W	W
Asphaltic concrete aggregates and road base materials	(5)	(5)	W	W
Fill	2	19	139	612
Other miscellaneous uses[3]	W	W	--	--
Unspecified:[4]				
Reported	7	29	35	195
Estimated	335	2,550	70	531
Total	399	3,110	688	4,050

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes plaster and gunite sands.
[3]Includes roofing granules, and snow and ice control.
[4]Reported and estimated production without a breakdown by end use.